

Date: Sun, 15 May 94 04:30:29 PDT
From: Ham-Space Mailing List and Newsgroup <ham-space@ucsd.edu>
Errors-To: Ham-Space-Errors@UCSD.Edu
Reply-To: Ham-Space@UCSD.Edu
Precedence: Bulk
Subject: Ham-Space Digest V94 #124
To: Ham-Space

Ham-Space Digest Sun, 15 May 94 Volume 94 : Issue 124

Today's Topics:

435 MHZ down converters? (2 msgs)
80ns EPROM - 27C512 and Trakbox
ORBS\$133.OSCAR.AMSAT

Send Replies or notes for publication to: <Ham-Space@UCSD.Edu>
Send subscription requests to: <Ham-Space-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Space Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-space".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Thu, 12 May 1994 21:43:22 GMT
From: ihnp4.ucsd.edu!newshub.sdsu.edu!nic-nac.CSU.net!usc!howland.reston.ans.net!
europa.eng.gtefsd.com!gatech!darwin.sura.net!fconvx.ncifcrf.gov!
mack@network.ucsd.edu
Subject: 435 MHZ down converters?
To: ham-space@ucsd.edu

In article <2qrk5q\$2tb@search01.news.aol.com> wa4ymz@aol.com (Wa4ymz) writes:
>I'm just about set up for the packet sats with just one exception: I don't have
>a receive setup. I'm planning to use a TS-670, or possibly a TS-690, HF rig
>as an IF, but I'll be needing a down converter. Since the satellites seem to
>down-link on 435.xxx through 437.xxx MHz, I'll need one that will allow
>switching segments or have a 6M output.

I use a hamtronics which comes out at 28MHz, I have the 432 version but its
available in a 435 version. I'm quite happy with it, but according to the
poop I read here, it isn't the greatest thing around. For \$100 it's at least
OK, at the circuit board is nicely done for what that's worth.

>I have a mast-mount pre-amp at 70cM,

>but would like to mount the converter at the antenna to minimize coax signal
>loss. Is this a big concern if I use the pre-amp?

Not at all. If you have a 20db gain preamp, then you can afford to have maybe
15db of loss in the coax before you get into trouble. You can use RG-58 on the
way down :-). I have the converter next to the HF receiver.

Note that sending power up the same line as the receive comes down
leaves you open to the one time when the relays don't change over just right
and you blow the preamp. Then you have to go get it off the tower etc. A real
pain. I've spent the extra money for some cheap coax for the receive line and
have one relay in the system at the antenna. If the relay doesn't change in
time for some reason,(and this will happen eventually), then your transmitter
faces an open circuit and the ALC shuts it down and the preamp is safe.

Joe Mack NA3T
mack@ncifcrf.gov

>I'd certainly appreciate
>suggestions and/or observations of the set-up anyone might be using. PS, can't
>really afford a full blown xcvr for the band at this time unless someone has
>something for sale or can point me in the right direction. Thanks.
>
>Gary WA4YMZ

Date: Sat, 14 May 1994 23:37:06 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!wupost!waikato!comp.vuw.ac.nz!frc!
wk@network.ucsd.edu
Subject: 435 MHZ down converters?
To: ham-space@ucsd.edu

The 70 cm -> 10 m down converter is the approach I have taken to get
on the microstats. It helps if your HF rig has a general coverage
receiver, as you'll need 3 MHz of IF to cover the 70 cm sat band. I
have converted 435 MHz to 27 MHz (finally a use for that band :-)) and
438 ends up at 30 MHz.

The 408 MHz crystal train is out of a German book (UHF Unterlage),
driving an SBL1 diode ring mixer. The ARRL handbook has some good
hints on how to terminate the SBL1 properly. Another book worth
looking at for down converter design is the VHF/UHF DX handbook,
published by the RSGB if I am not wrong, this book has excellent
design tips on transverters and RF power amps.

You could move your preamp to the mast head, or even the entire
converter. The choice depends on your transmission (rx?) line losses.

If losses are high, you should consider putting the entire converter up, to allow you to minimize front end gain and improve intermod performance.

Moderate losses, and you could put up with the less than ideal gain distribution and use a masthead preamp only. In case of a short run of good quality coax, you could decide to trade a little bit of performance for the convenience of having preamp and converter in the shack.

If you are using a beam to track the micro sats, things become much less critical, an omni downlink antenna places much higher demands on noise figure, sensitivity and intermod resistance. Basically, there are no hard and fast rules: 'it depends'.

Using a GP and 15 m of RG58 (all electronics in the shack) I receive the microsats around S5 during good passes. I get them from 20 deg elevation, but as expected fading gets pretty bad when the rise high. Signals aren't really good enough, the TAPR PSK modem has trouble AFC tracking at times. I am working on a Lindenblad which will have a 3SK97 masthead preamp and RG213 coax.

Wilbert ZL2BSJ

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Wilbert Knol, Acoustics Group, MAF Marine Research, Wellington, New Zealand.
Usenet: wk@frc.maf.govt.nz PACKET:ZL2BSJ@ZL2WA.NZL.OC
AMPR:[44.147.180.88] AX25 NET/ROM TCP/IP MBX 146.625 147.075 MHz 24 hrs.

Date: Fri, 13 May 1994 16:03:33 GMT
From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!howland.reston.ans.net!torn!news.unb.ca!
upeii.ca!UPEII.CA!seeler@network.ucsd.edu
Subject: 80ns EPROM - 27C512 and Trakbox
To: ham-space@ucsd.edu

Has anyone been successful in finding 80 ns access 27C512 EPROMS for the trakbox upgrade? Canadian companies do not currently carry this item in stock - nor are they willing to part with just 1 - 3 units :-)

The name and phone number (non 800 #s pls) or location of American suppliers would be greatly appreciated!

Thanks in advance DAve Seeler, VY2DCS
Internet: Seeler@upeii.ca

ps - a manufacturer is Advanced Microdevices (AM27C512-75 DC) for example.

Date: Fri, 13 May 1994 07:56:00 MDT
From: ihnp4.ucsd.edu!news.acns.nwu.edu!math.ohio-state.edu!howland.reston.ans.net!
gatech!newsxfer.itd.umich.edu!nntp.cs.ubc.ca!alberta!ve6mgs!
usenet@network.ucsd.edu
Subject: ORBS\$133.OSCAR.AMSAT
To: ham-space@ucsd.edu

SB KEPS @ AMSAT \$ORBS-133.0
Orbital Elements 133.OSCAR

HR AMSAT ORBITAL ELEMENTS FOR OSCAR SATELLITES
FROM WA5QGD FORT WORTH, TX May 13, 1994
BID: \$ORBS-133.0
TO ALL RADIO AMATEURS BT

Satellite: A0-10
Catalog number: 14129
Epoch time: 94130.80459721
Element set: 277
Inclination: 27.1382 deg
RA of node: 328.2037 deg
Eccentricity: 0.6020986
Arg of perigee: 177.1779 deg
Mean anomaly: 188.9849 deg
Mean motion: 2.05880044 rev/day
Decay rate: -1.6e-07 rev/day^2
Epoch rev: 8201
Checksum: 313

Satellite: U0-11
Catalog number: 14781
Epoch time: 94129.54582830
Element set: 687
Inclination: 97.7882 deg
RA of node: 146.0792 deg
Eccentricity: 0.0012814
Arg of perigee: 37.7565 deg
Mean anomaly: 322.4528 deg
Mean motion: 14.69203696 rev/day
Decay rate: 2.11e-06 rev/day^2
Epoch rev: 54463
Checksum: 331

Satellite: RS-10/11
Catalog number: 18129
Epoch time: 94130.08415553

Element set: 896
Inclination: 82.9265 deg
RA of node: 357.0128 deg
Eccentricity: 0.0012666
Arg of perigee: 123.6132 deg
Mean anomaly: 236.6238 deg
Mean motion: 13.72335938 rev/day
Decay rate: -.000000000 rev/day^2
Epoch rev: 34468
Checksum: 295

Satellite: A0-13
Catalog number: 19216
Epoch time: 94126.28995779
Element set: 909
Inclination: 57.8344 deg
RA of node: 254.1456 deg
Eccentricity: 0.7210927
Arg of perigee: 340.7734 deg
Mean anomaly: 2.0051 deg
Mean motion: 2.09721388 rev/day
Decay rate: -3.21e-06 rev/day^2
Epoch rev: 4513
Checksum: 311

Satellite: F0-20
Catalog number: 20480
Epoch time: 94129.46561045
Element set: 682
Inclination: 99.0315 deg
RA of node: 288.6150 deg
Eccentricity: 0.0541341
Arg of perigee: 67.1736 deg
Mean anomaly: 298.5600 deg
Mean motion: 12.83225679 rev/day
Decay rate: -8.0e-08 rev/day^2
Epoch rev: 19916
Checksum: 315

Satellite: A0-21
Catalog number: 21087
Epoch time: 94129.16206480
Element set: 462
Inclination: 82.9448 deg
RA of node: 171.5920 deg
Eccentricity: 0.0034734
Arg of perigee: 189.9860 deg
Mean anomaly: 170.0610 deg

Mean motion: 13.74538981 rev/day
Decay rate: 9.4e-07 rev/day^2
Epoch rev: 16422
Checksum: 310

Satellite: RS-12/13
Catalog number: 21089
Epoch time: 94129.20675370
Element set: 685
Inclination: 82.9235 deg
RA of node: 40.3573 deg
Eccentricity: 0.0027928
Arg of perigee: 215.5272 deg
Mean anomaly: 144.4021 deg
Mean motion: 13.74040261 rev/day
Decay rate: 5.0e-07 rev/day^2
Epoch rev: 16329
Checksum: 285

Satellite: ARSENE
Catalog number: 22654
Epoch time: 94124.94294243
Element set: 251
Inclination: 1.7729 deg
RA of node: 101.4452 deg
Eccentricity: 0.2921942
Arg of perigee: 180.0752 deg
Mean anomaly: 180.1868 deg
Mean motion: 1.42202361 rev/day
Decay rate: -1.20e-06 rev/day^2
Epoch rev: 58
Checksum: 258

/EX

End of Ham-Space Digest V94 #124
